

WHAT IS CLAIMED IS:

1 1. In a telecommunications system having voice
2 communications subject to noise, a distributed noise
3 suppression system for suppressing said noise for a given one
4 of said voice communications, said noise suppression system
5 comprising:

6 a first noise suppressor, within a first device,
7 for suppressing noise received by said first device prior
8 to transmission of the noise-suppressed signal to a
9 destination device; and

10 a second noise suppressor, within said destination
11 device, for further suppressing the noise-suppressed signal
12 received from said first device to said destination device,
13 whereby the noise associated with said given one of said
14 voice communications is reduced twice.

1 2. The noise suppression system according to claim 1,
2 wherein said first device is a mobile terminal.

1 3. The noise suppression system according to claim 1,
2 wherein said first device is selected from the group
3 consisting of:

4 a microphone, terminal, PC, Internet device, and
5 a transmission system.

1 4. The noise suppression system according to claim 1,
2 wherein said destination device is a mobile telephone.

1 5. The noise suppression system according to claim 1,
2 wherein said destination device is selected from the group
3 consisting of:

4 a loudspeaker, terminal, PC, Internet device, and
5 a transmission system.

1 6. The noise suppression system according to claim 1,
2 further comprising:

3 an encoder, within said first device and attached
4 to said first noise suppressor, for encoding said noise-
5 suppressed signal from said first noise suppressor prior to
6 transmission to said destination device.

1 7. The noise suppression system according to claim 6,
2 further comprising:

3 a decoder, within said destination device and
4 attached to said second noise suppressor, for decoding said
5 noise-suppressed signal received from said transmitter prior
6 to said second noise suppressor.

1 8. The noise suppression system according to claim 7,
2 wherein said noise-suppressed signal received from said
3 transmitter prior to said second suppressor is subject to
4 signal distortion caused by low bit-rate speech encoding by
5 said encoder, and wherein said second noise suppressor is
6 tuned to suppress said signal distortion.

1 9. The noise suppression system according to claim 1,
2 wherein the noise associated with said given one of said
3 voice communications is reduced by said first suppressor by
4 about 6 to 14 dB.

1 10. The noise suppression system according to claim 9,
2 wherein the noise is reduced by said first suppressor by
3 about 8 to 10 dB.

1 11. The noise suppression system according to claim 10,
2 wherein the noise is reduced by said first suppressor by
3 about 8 dB.

1 12. The noise suppression system according to claim 1,
2 wherein the noise associated with said given one of said
3 voice communications, after suppression by said first noise
4 suppressor, is further reduced by said second suppressor by
5 about 1 to 10 dB.

1 13. The noise suppression system according to claim 12,
2 wherein the noise is reduced by said second suppressor by
3 about 2 to 8 dB.

1 14. The noise suppression system according to claim 13,
2 wherein the noise is reduced by said second suppressor by
3 about 6 dB

1 15. The noise suppression system according to claim 1,
2 wherein the noise associated with said given one of said
3 voice communications is acoustic.

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1 16. The noise suppression system according to claim 1,
2 wherein the noise associated with said given one of said
3 voice communications, after suppression by said first noise
4 suppressor, is from an encoding of said noise-suppressed
5 signal.

1 17. The noise suppression system according to claim 1,
2 wherein the noise associated with said given one of said
3 voice communications, after suppression by said first noise
4 suppressor, is from transmission of said noise-suppressed
5 signal.

1 18. The noise suppression system according to claim 1,
2 wherein said first and second noise suppressors employ
3 respective algorithms therein tuned to the respective noises
4 encountered.

1 19. The noise suppression system according to claim 18,
2 wherein the first and second noise suppression algorithms
3 adapt dynamically to the respective noises encountered.

1 20. In a telecommunications system having voice
2 communications subject to noise, a mobile telephone having

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3 suppression means therein for suppressing said noise for a
4 given one of said voice communications, said mobile telephone
5 comprising:

6 a first noise suppressor for suppressing noise received
7 by said mobile telephone prior to transmission of the noise-
8 suppressed signal to a destination device; and

9 a second noise suppressor for suppressing a received
10 noise-suppressed signal received from a transmitting device
11 having a first noise suppressor therein, whereby the noise
12 associated with said given one of said voice communications
13 is reduced twice.

1 21. The mobile telephone according to claim 20, further
2 comprising:

3 an encoder, attached to said first noise
4 suppressor, for encoding said noise-suppressed signal from
5 said first noise suppressor prior to transmission to said
6 destination device.

1 22. The mobile telephone according to claim 20, further
2 comprising:
3 a decoder, attached to said second noise
4 suppressor, for decoding said received noise-suppressed
5 signal received from said transmitting device prior to said
6 second noise suppressor.

1 23. The mobile telephone according to claim 22, wherein
2 said noise-suppressed signal received from said transmitter
3 prior to said second suppressor is subject to signal
4 distortion caused by low bit-rate speech encoding by said
5 encoder, and wherein said second noise suppressor is tuned
6 to suppress said signal distortion.

1 24. The mobile telephone according to claim 20, wherein
2 the noise associated with said given one of said voice
3 communications is reduced by said first suppressor by about
4 6 to 14 dB.

1 25. The mobile telephone according to claim 24, wherein
2 the noise is reduced by said first suppressor by about 8 to
3 10 dB.

1 26. The mobile telephone according to claim 25, wherein
2 the noise is reduced by said first suppressor by about 8 dB.

1 27. The noise suppression system according to claim 20,
2 wherein the noise associated with said given one of said
3 voice communications, after suppression by said first noise
4 suppressor, is further reduced by said second suppressor by
5 about 1 to 10 dB.

1 28. The mobile telephone according to claim 27, wherein
2 the noise is reduced by said second suppressor by about 2 to
3 8 dB.

1 29. The mobile telephone according to claim 28, wherein
2 the noise is reduced by said second suppressor by about 6 dB

1 30. The mobile telephone according to claim 20, wherein
2 the noise associated with said given one of said voice
3 communications is acoustic.

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1 ~~33.~~ In a telecommunications system having voice
2 communications subject to noise, a method for suppressing
3 said noise for a given one of said voice communications, said
4 method comprising the steps of:
5 noise suppressing, by a first noise suppressor,
6 acoustic noise received by a first device prior to
7 transmission of the noise-suppressed signal to a destination
8 device; and
9 further noise suppressing, by a second noise
10 suppressor within said destination device, said noise-
11 suppressed signal received from said first device.

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